

DESCRIPTIONS OF AUSTRALIAN MICRO-LEPIDOPTERA.

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II. CRAMBITES (Continued).

In the following paper, which may be regarded as supplementary to the one published in Vol. III., pp. 175 –216, I have described all the remaining species of the group yet known to me as occurring in this region, and have also been enabled to make a few corrections and additions, relative to the species previously described. Although these insects have been mostly collected within a limited area, and represent only a fractional part of the whole number of species of this group occurring in Australia, they are yet sufficiently numerous to warrant a few general remarks on the geographical distribution of that section of the Lepidoptera of which they are representatives.

The most remarkable point to be noticed is the almost universal generic identity of the Australian species of *Crambites* with European types; but except in the case of imported species, no specific identity, and very rarely any close specific resemblance exists. The species yet described fall under 22 genera; of these two are represented by imported species only, three are also Asiatic or American, one endemic, and the remaining 16 genera are all European, and generally more or less cosmopolitan. This peculiarity becomes more remarkable if we contrast the *Crambites* with some of the principal families of *Tineina*, standing lower in the scale of development; in these (as will be shown in subsequent papers) only the larger and more dominant genera of Europe are represented, the great majority of species belonging to endemic genera. Thus taking for comparison the *Gelechiidæ*, a family which, like the *Crambites*, is distributed with remarkable evenness over the whole world, an analysis of the materials at present

obtained shows that out of 68 genera, containing over 200 species, only 14 genera, represented by 48 species, are common to Europe and Australia; whilst in the *Ecophoridae*, a family which here attains its maximum of development, we find that out of about 35 genera, with 220 species, only three genera are shared with Europe. The persistence of generic types in the case of the *Crambites* is therefore an exceptional circumstance, and in conjunction with their universal distribution must be taken to indicate an origin very remote in time, and a character little liable to be influenced by external circumstances.

The only case of close specific resemblance to a European species is that of *Etiella Behrii*, Z., which is closely allied to *E. zinckenella*, Tr., a species which possesses the (for a Phycite) extraordinarily wide range of Europe, Africa, and America. The *Micro-Lepidoptera* have as yet been so little studied outside the European region, that no profitable comparison with other faunas could be made. We have, however, on Walker's authority, at least one instance—*Crambus concinnellus*, Wkr.—of a Micro, native in this country, occurring also in India and Africa.

The additional species described hereafter are 26, of which 23 are new; and I have also quoted from Zeller the diagnoses of three species which he has described, but which I have not yet met with, in order that the list may be serviceable as a general summary of our knowledge; the few unidentified descriptions of Walker, are not worthy of a place until otherwise confirmed. With these additions the entire number of described species will be 71.

CHILONIDÆ.

CHILO, Zk.

Chil. parramattellus, P.L.S., N.S.Wales, Vol. III., p. 178.

The capture of further specimens has proved that the insects described as male and female of this, are in reality distinct species.

I had indeed suspected this at one time, but having a number of males of one form, and a number of females of the other, without the corresponding sexes, taken under the same circumstances, they were assumed to belong to the same species, the differences being such as usually indicate the sexes in this genus. Since then the other sex of each species has turned up, so that no further doubt exists. The name *parramattellus* must be retained for the male described. The female of this species is similar in all respects, but generally more suffused with fuscous.

Chil. leptogrammellus, n. sp.

Described in Vol. III., p. 178, as *Chil. parramattellus*, female; the description need not therefore be repeated here. The male is rather larger than the female, (12"-12½"), with broader and less acute fore-wings; in other points similar.

Taken at Sydney and Parramatta, in December, and again in February and March.

Chil. (?) schistellus, n. sp.

♀. 15." Head whitish. Labial palpi 2½ times as long as head, densely scaled, dark fuscous-grey, above mixed with whitish, beneath white at base. Maxillary palpi rather short, whitish, at base fuscous-grey. Antennæ dark fuscous. Thorax dark fuscous-grey, mixed with whitish on back, becoming white posteriorly. Abdomen stout, white; anus compressed, truncate, ovipositor elongate-conical. Legs dark fuscous-grey; tarsi tinged with ochreous. Fore-wings elongate-oblong, broad; costa gently arched; apex obtuse; hind-margin strongly rounded, oblique; dark fuscous-grey, becoming much paler towards inner margin; costa slenderly white from base to apex, the white colour tending to be shortly produced along the costal vein-branches; a broad central white streak from base to hind-margin along median vein, attenuated basally, near hind-margin becoming double, the branches separated by a short, slender,

dark fuscous streak; from its lower edge beyond middle are indications only of commencement of two other branches; between median streak and costa are two elongate, white streaks, starting in confluence from a point just beyond middle, becoming wider, and running near-together to hind-margin; a hind-marginal row of seven black dots, alternating with the white streaks; cilia fuscous-grey, base and tips suffused with whitish. Hind-wings white, apex infuscated, hind-marginal line dark fuscous, interrupted; cilia white, with fuscous parting-line, only distinct round apex.

One female on the Parramatta River, in December. This hardly appears to be a true *Chilo*, but the female shows no generic point of difference, except in the more rounded wings, and abnormal crambideous markings; possibly the male may possess more definite characters.

CRAMBIDÆ.

ANCYLOLOMIA, *Hb.*

Ocelli distinct. Labial palpi moderate or long, straight, porrected; maxillary palpi triangular, appressed. No tongue. Antennæ in male, dentate or pectinated; in female simple. Fore-wings with hind-margin broadly sinuate beneath apex; marked with metallic lines between the veins, and with usually three undulated strigae before hind-margin. Hind-wings with basal pecten.

Distinguished from allied genera by the shape and markings of fore-wings.

Anc. Westwoodi, *Z. Cr. II.*

“Antennis ♂ breviter pectinatis, palpis brevibus; alis anticis latis, argenteo-venosis, pallide flavidis, in disco saturatoribus; intervallo strigarum duarum antemarginalium lato albo, striga interiore infra medium acute dentata.

Differs from other species of the genus by the absence of a white streak, and generally by the shorter palpi, broad white space before hind-margin, and acute tooth of the second striga. From Tasmania." *Z. loc. cit.*

(*Prionophora ruptella*, P.L.S., N.S. Wales, Vol. III., p. 179.

The discovery of the larva of this species has revealed the totally unexpected fact that this insect belongs to the *Geometrina*, the larva being a twelve-legged looper, feeding on *casuarina*. The pupa is abnormally shaped, elongate-cylindrical. The imago is quite abnormal amongst *Geometræ*, and I cannot conceive to what species it is allied; its long palpi and elongate fore-wings give it a very singular appearance in the group. It is fortunate that I have been able to correct the very natural error of Walker and myself.)

CRAMBUS, *F.*

Cr. apicistrigellus, *n. sp.*

7"-8". Head brownish-ochreous. Labial palpi in male $2\frac{1}{4}$, in female $2\frac{1}{2}$ times as long as head, dark fuscous, whitish beneath towards base. Maxillary palpi dark fuscous, mixed with lighter. Antennæ whitish-grey, in male thickened, dentate, finely ciliated, in female simple. Thorax ochreous-brown. Abdomen whitish-ochreous-grey, in male with elongate attenuated anal tuft, in female with short conical ovipositor. Legs white, anterior pair sometimes suffused with pale grey above. Fore-wings elongate, in male moderately broad, costa nearly straight, hind-margin oblique, slightly rounded, indented a little below apex; in female narrower, with costa straighter; dark ochreous-brown, more or less strongly irrorated with dark fuscous; three short outwardly oblique white streaks from costa, first two between $\frac{1}{3}$ and $\frac{2}{3}$, extremely oblique, almost coincident with costa, acute, separated by a narrow dark fuscous line, third less oblique from four-fifths of costa nearly to hind-margin a little below apex, attenuated

posteriorly; a small irregular oval white apical spot; a white central streak from base to $\frac{3}{4}$ of disc, at first narrow, rapidly dilated, upper edge straight, lower edge twice toothed obliquely inwards, apex more oblique than hind-margin, indented in middle; sometimes this streak reappears on hind-margin as a laterally-suffused blotch; second line visible from extremity of third costal streak to anal angle, slender, blackish, five times very acutely angulated inwards; in female the whole of the markings are lost except the white costal streaks, the rest of the wing being unicolorous: cilia white, tips and sometimes almost the whole, suffused with dark fuscous, and the dark fuscous parting-line near base, very strongly marked round apex of wing. Hind-wings pale fuscous-grey; cilia whitish, with faint-grey parting-line.

Intermediate in general character between the groups of *Cr. candiellus*, *Ws.* and *pratellus*, *L.*, but narrower-winged than any allied European species, and otherwise distinct. Amongst Australian species nearest to *concinellus*, *Walker*, but at once separated by the absence of the dorsal white streak.

Occurs at South Creek, and in abundance at Parramatta, but local; comes in plenty to light; double-brooded, the first brood in October and November, the second in February and March.

Cr. bifractellus, *Walker*.

I have come to the conclusion that this species (described in Vol. III., p. 197, as an *Eromene*) was correctly placed by Walker in *Crambus*. Its nearest allies are the group of *trivittatus*, *Z.*, and especially *aurantiacus*, which it resembles in form, differing however from all by the broken longitudinal streaks, and metallic fascia.

Cr. impletellus, *Walker*, *Cat.* 175.

♂ 11"-13". Head ochreous-brown, with a whitish spot over each eye, and indistinctly whitish behind antennæ. Labial

palpi $2\frac{1}{2}$ times as long as head, attenuated, fuscous, above and beneath narrowly white. Maxillary palpi, white, at base fuscous. Antennæ dark fuscous, subdentate, finely ciliated. Thorax ochreous-brown, with a small white spot behind, and two slender white posteriorly confluent longitudinal streaks on each side. Abdomen dull whitish-yellow. Anterior and middle legs fuscous, tibiae with central suffused whitish bands, tarsi with broad whitish rings at apex of joints; posterior legs yellow-whitish, tarsi suffused with fuscous towards base of joints. Fore-wings broad, subtriangular, costa hardly arched, hind-margin obliquely truncate, waved above and below middle, suddenly rounded beneath; dark fuscous, tinged with ochreous, but with all the scales white at base, causing an appearance of alternate lines, with numerous irregular white markings; a white central streak from base to just beyond middle of disc, at first narrow, expanded to $\frac{1}{3}$ of disc, thence acute-pointed, including a central similar streak of ground-colour; from middle of its lower edge it sends a white streak along fold to just beyond middle, whence, becoming broader, it is extremely acutely angulated back to inner margin at $\frac{1}{3}$, along which it is continued to base; a short outwardly oblique white streak from costa at two-fifths, before which is a short white partial streak along costa; an elongate oblique-transverse curved white discal spot, margined with black, at $\frac{2}{3}$ of disc, its lower angle pointing to anal angle of wing; above this is a subquadrate oblique white costal spot, only separated from discal spot by its black margin; subterminal line white, commencing as a strong inwardly oblique streak from costa a little before apex, bent outwards a little below costa, thence slenderer and often broken, gently curving down to anal angle; immediately before this is a transverse row of eight lanceolate white spots, costal one broadest, ovate, eighth elongate, above inner margin; a cloudy white streak on inner margin from $\frac{1}{3}$ to $\frac{2}{3}$; a short crooked oblique white subapical streak, and three semi-ovate, clear white, hind-marginal spots, one in centre of hind-margin, and two adjacent just above anal

angle, all margined above and below with black; hind-marginal line blackish; cilia pale grey-fuscous, with a dark central line, and chequered with three double, whitish, squares, alternating with the white hind-marginal spots. Hind-wings pale ochreous-yellow, apex slightly infuscated; hind-marginal line cloudy fuscous; cilia pale ochreous-yellow.

♀ 10". Smaller and paler than male, white markings broader and more suffused, labial palpi proportionately shorter, antennæ simple; abdomen and hind-wings dull white, apex of hind-wings infuscated.

Nearly allied to *pleniferellus*, Walker, from which it differs by the hind-wings being ochreous-yellow in male, white in female, whilst in *pleniferellus* they are grey in both sexes; and also by the differently arranged markings of fore-wings. In shape of wing and other respects this insect is evidently allied to the group of *craterellus*, Sc. and *chrysonuchellus* Sc.

Mr. G. H. Raynor took this species in some abundance near Hobart Town, Tasmania, whence also Walker's specimens were sent; it occurred early in January.

Cr. pleniferellus, Walker.

To the references for this species should have been added, as a synonym, *aurosus*, Felder and Rogenh., Novara-Reise, tab. 137, fig. 31, under which name Zeller has also since described it in the Horae Societatis Rossicae, 1877, p. 45; Walker's name has the priority and must be retained, as it is identifiable with certainty.

Cr. longipalpellus.

It seems that this species also (described Vol. III., p. 196) is, like *bifractellus*, better transferred to this genus; it is not however, closely allied to any species known to me.

Cr. relatalis, Walker.

Mr. Raynor found this species very common in Tasmania early in January, round Hobart Town and Launceston; probably it occurs throughout the island.

Cr. grammellus, Z., *Cr.* 46.

“Palpis longis, alis anticis subelongatis, acutis, margine postico oblique rotundato; pallidissime ochraceis, vena mediana incrassata nivea nitidula ramum longissimum inferius exserente, vitta lutea eam superius marginante in alae apicem perducta, strigula venæ transversæ lineolisque marginis postici fuscis, ciliis niveis. ♂”

Allied to the group of *relatalis*, Walker, and *opulentellus*, Z., in which it is readily distinguished by the single branch of the median streak, and pure white cilia. Habitat given doubtfully as Australia, but probably correctly.

Cr. perlatalis, Walker, *Cat.* 174.

12"-13". Head greyish-ochreous; a frontal line, a line over each eye, and a spot behind antennæ whitish. Labial palpi fully thrice as long as head, greyish-ochreous mixed with darker, internally whitish, beneath white at base. Maxillary palpi greyish-ochreous, with a few whitish scales. Antennæ dark fuscous, in male rather thickened, very finely ciliated. Thorax brownish-ochreous, on back suffused with fuscous grey, with a rather broad white longitudinal line on each side of back, confluent behind. Abdomen ochreous-whitish, towards base suffused with smoky-grey. Legs dark greyish-ochreous, tarsi wholly suffused with dark fuscous. Fore-wings moderately elongate, rather strongly dilated, costa nearly straight, apex subacute, hind-margin distinctly sinuate below apex, very strongly rounded off beneath; whitish-ochreous, tinged with grey; a slender white costal streak from very near base to about $\frac{3}{4}$, leaving extreme costal edge of groundcolour; a discal white streak, beginning very acutely at one-fifth from base, widening gradually until three-fifths, where it is abruptly furcate, the upper

branch moderately broad, hardly attenuated, running to costa just before apex, the lower branch constricted at base, becoming broader and more suffused, running straight to middle of hind-margin; above this lower branch are three, and beneath it two wedge-shaped white marks on hind-margin between adjacent veins, variable in size, sometimes very small, sometimes large and almost confluent, those nearest the branch always largest, connected at base by a white streak along hind-margin; a rather narrow white streak from base along lowest branch of submedian vein to anal angle, slightly bent at three-fifths, posteriorly often indistinct; a small white spot on inner margin at base; cilia ochreous-whitish, basally rather darker, with faint central parting line. Hind-wings pale fuscous grey, more whitish towards base; cilia whitish, with faint grey parting-line.

Intermediate between *relatalis*, *Wlk.* and *opulentellus*, *Z.*; differs from all the allied species except *grammellus*, *Z.*, by the pale washy tint of ground-colour, and single branch of median streak; from *grammellus*, *Z.*, by the furcation of the median streak, and hind-marginal spots; from the Tasmanian *invalidellus*, which is also a pale species, by the furcate streak and grey hind-wings.

Taken in plenty by Mr. G. H. Raynor, near Launceston, Tasmania, early in January.

Cr. enneagrammos.

Also common near Launceston, Tasmania, early in January. Although in Victoria and Tasmania this insect appears in January, near Sydney, although still single brooded, it is not on the wing until March.

Cr. argyroneurus, *Z.*, *Cr.* 47.

“*Alis anticis oblongis, acutis, margine postico infra apicem retuso, griseo-ochraceis, vitta tenui subcostali, venaque mediana incrassata cum ramis argenteis, ramo secundo tertioque partim comatis, ciliis albidis nitidulis. ♂.*”

This species, of which Zeller's first specimen came from Adelaide, appears to be certainly distinct from any species which I have seen. Subsequently (Hor. Soc. Ross. 1877, p. 58) he mentions having seen a second specimen in all respects similar to the first. He describes it as closely allied to *opulentellus*, Z., but distinguished especially by the costal white streak reaching base, the thickened branches of median streak, and the partial confluence of the second and third branches. In the two former points it agrees well with *enneagrammos*, but differs by the yellowish maxillary palpi, and union of second and third branches of median vein, with partial obsolescence of second, nor has Zeller mentioned any white triangle above the median streak. None of the very numerous specimens of *enneagrammos* which I have seen from Victoria, New South Wales and Tasmania, possess either of these characteristics.

In addition to the *Crambi* described here and previously, Walker gives in his catalogue five other descriptions, which I have not thought deserving of inclusion in the list, but of which a brief notice may be useful. The description of *Cr. ramostriellus*, Cat. 172, is hardly intelligible, and almost certainly unidentifiable, unless it is synonymous with the succeeding *relatalis*. *Demissalis*, *vetustellus*, and *delatalis*, Cat. 176, are no doubt *Crambi* of the *perlellus* group, but may possibly be all synonymous; the first two are from Western Australia, the third from Queensland. *Ochraceellus*, Cat. 177, from Sydney, is of dubious character; it seems improbable that so conspicuous a *Crambus* could occur here at all commonly (Walker's specimens were sent by three different collectors) without being found in any one of the local collections I have seen.

ARGYRIA, *Hb.*, (CATHARYLLA, Z.)

Characters of *Crambus*, except that the labial palpi are relatively shorter, generally not longer than head and half thorax; from *Eromene*, which it resembles in the shorter palpi, it differs

by the absence of the transparent spot at base of hind-wings in male. From both it is removed by the white, sometimes fasciated, fore-wings. The genus is distributed through nearly all warm countries, excepting Europe.

Arg. argyraspis, n. sp.

6"-8". ♂ ♀. Head snow-white, with an orange spot behind each eye. Labial palpi rather more than twice as long as head, gradually attenuated, snow-white above, orange-ochreous beneath. Maxillary palpi white, at base ochreous. Antennæ orange-ochreous, annulated with white, in male rather thickened, subdentate. Thorax shining snow-white, with a rather broad ochreous-orange longitudinal line on each side of back. Abdomen ochreous-whitish. Legs whitish, anterior and middle tibiae, and all tarsi bright ochreous-orange above. Fore-wings triangular, very broad posteriorly, costa almost straight, hind-margin truncate, very slightly oblique, anal angle hardly obtuse; shining snow-white; costa narrowly dark ferruginous from base to apex, faintly dentate beneath at $\frac{1}{2}$ and five-sixth; inner margin narrowly dark ferruginous from near base to anal angle, emitting an acute projecting tooth inwards at $\frac{1}{2}$; hind-margin very narrowly dark ferruginous, marked with a row of subelongate black spots, and with a marginal black line on apical half; cilia ferruginous-orange, with a purple-fuscous parting-line near base. Hind-wings in male whitish, in female very pale fuscous-grey, hind-marginal line dark fuscous; cilia whitish.

The species is distinguished in the genus by its small size, the ferruginous costal and inner margins, and absence of fascia. Two specimens (1 ♂. 1 ♀) were taken by Mr. F. Burkitt, in my presence at Bulli and Wollongong at the beginning of October, flying before sunset in grass-fields.

DIPTYCHOPHORA, Z.

Ocelli distinct. Labial palpi rather short, porrected or ascending; maxillary palpi triangular, appressed. Tongue spiral. Fore

wings with hind-margin twice slightly emarginate or indented below apex; hind-wings with basal pecten.

A small, recently defined, genus, distinguished especially by the two indentations below apex of fore-wings. The only other species known besides the Australian are from South America.

To this genus, and not to *Eromene* should be referred the species described in Vol. III., p. 198-199, as *praematurella* and *dilatella*, which I now, from the examination of further specimens, consider to be merely the spring and summer broods of the same rather variable insect, for which the name *praematnrella* must be retained. It is common, but local, in marshy places near Sydney, from October to February. It is very similar to the South American species, but differs by the possession of usually eight hind-marginal spots, instead of three.

PHYCIDÆ.

NEPHOPTERYX, Z.,

Neph. euraphella, n. sp.

9". ♀. Head silvery-grey, mixed with dark fuscous. Palpi arched, ascending, attenuated, hardly reaching forehead, whitish-grey, densely mixed with blackish-fuscous. Antennae grey. Thorax silvery-grey, densely mixed with blackish-fuscous. Abdomen silvery-grey, suffused with dark fuscous, except on apical rings of segments. Legs dark slaty-fuscous, irrorated with whitish; tarsi dark fuscous with whitish rings at apex of joints; posterior tibiae with an oblique rather broad blackish ring a little before apex. Fore-wings elongate, narrowed at base, costa bent in middle, thence parrallel to inner margin, apex rounded, hind-margin obliquely rounded; pale grey, irregularly irrorated with darker grey and dark fuscous scales, the darker scales predominating along costa and hind-margin, and more narrowly along inner-margin; along fold and beneath costa the ground-colour is mixed with whitish; first line from $\frac{1}{3}$ of costa

to two-fifths of inner margin, straight, moderately oblique, rather broad and strongly marked, black; second line from about five-sixths of costa nearly to anal angle, rather slender, black, bordered externally with whitish, angulated sharply inwards below costa, and again obtusely at $\frac{1}{3}$ above inner [margin; an irregularly crescentic black spot on disc at $\frac{2}{3}$, a little below costa, beneath which the dark scales of ground-colour form an obsolete dark shade, resting on inner margin: cilia pale fuscous-grey, indistinctly shaded with darker. Hind-wings almost wholly transparent, suffused with pale-grey posteriorly; hind-margin very narrowly clouded with darker fuscous-grey; cilia pale grey, darker round apex, with cloudy darker parting-line.

The male being unknown, the species may not perhaps be a true *Nephopteryx*. It is intermediate in breadth of wing between *stenopterella* and *opimella*, and cannot possibly be confused with either; *stenopterella* has straight porrected palpi, and *opimella* yellow hind-wings.

One female taken at light at Wollongong in the beginning of October.

Neph. infusella, n. sp.

8 $\frac{3}{4}$ " ♀. Head pale grey. Palpi hardly longer than head, curved, ascending, terminal joint slender, whitish, mixed with fuscous-grey. Antennæ grey. Thorax pale slaty-grey, darker on back, with a few black scales. Abdomen whitish ochreous, base of segments pale grey. Legs ochreous-whitish, finely irrorated with fuscous, all tibiæ with an indistinct oblique blackish band, in anterior pair above, in middle and posterior pair below the middle; tarsi black, with broad ochreous-whitish rings at apex of joints. Fore-wings elongate, narrow, gradually dilated, costa rounded before obtuse apex, hind-margin rounded, oblique; pale slaty-grey, irregularly thinly irrorated with blackish scales; a rather broad outwardly curved central transverse band of blackish scales, internally obscurely bordered on disc with

chestnut-brown, externally suffused; upper half of second line barely indicated with blackish scales, sharply angulated at $\frac{1}{3}$ from costa; a row of several ill-defined spots of black scales on hind-margin; cilia pale grey, with whitish points. Hind-wings whitish-grey, subhyaline, hind-marginal line dark fuscous, suffused; cilia whitish, with fuscous-grey parting-line.

Of this species also the male is not known; it is however certainly allied to *euraphella*, with which it also agrees in general habit, but may be readily known by its central dark band, and the absence of the strongly-marked first and second lines.

One female received from neighbourhood of Duaringa, Queensland taken by Mr. G. Barnard.

Neph. fornacella, n. sp.

7". ♀. Head, palpi, antennæ, and thorax, dark grey; palpi obliquely ascending, reaching not much above head. Abdomen dark iridescent ochreous-grey. Legs ochreous-whitish, irrorated with dark fuscous, tarsi dark fuscous with whitish-ochreous rings at apex of joints. Fore-wings elongate, narrow, costa gently arched, hind-margin obliquely rounded; dull grey, clouded with darker. along costa rather broadly sprinkled with whitish; first and second lines obscurely darker grey; first line angulated above middle; second line double, near hind-margin, sending a short acute angulation obliquely inwards a little below costa; discal spot rather large, single, cloudy, transverse; cilia dark grey. Hind-wings deep golden-fulvous; cilia greyish-fulvous, with indistinct darker parting-line.

Tolerably nearly allied to *stenopterella*, which it resembles in shape, size, and general markings, but differs by the ascending palpi and golden-fulvous hind-wings.

Two females taken at light, Parramatta, late in February.

Considerable dissimilarity exists between the five hitherto described Australian species of *Nephopteryx*, but the variation is

analogous to that which occurs amongst the European species. Thus *opimella* closely resembles in form the short-winged European *racciniella*, Z.; *euraphella* and *infusella* have the general figure of *genistella*, Dup.; whilst the narrow-winged *stenopterella* and *fornacella* bear much similarity to *Metzneri*, Z., to which indeed *stenopterella* seems rather nearly allied.

PEMPELIA, *Hb.*

Pemp. melanostyla, n. sp.

10". ♀. Head grey-whitish, mixed with darker. Palpi hardly longer than head, obliquely ascending, terminal joint horizontal; whitish above, blackish beneath. Antennæ filiform, blackish. Thorax whitish-grey, coarsely irrorated with blackish. Abdomen dark iridescent grey; sides, apical rings of segments, and anal tuft pearly whitish. Legs whitish; anterior pair, and all tarsi blackish, with pale rings at apex of joints. Fore-wings elongate, moderately broad, gradually dilated, costa hardly arched, hind-margin rather oblique, slightly rounded; grey whitish, coarsely irrorated with black scales, partially confluent over disc; first line strong, black, somewhat clouded, from two-fifths of costa to two-fifths of inner margin, indistinctly waved, hardly curved beneath costa, ending on inner margin in a small sub-quadrate black spot, the lower angle of which is produced along inner margin nearly to base as a strong black streak: second line hardly perceptible, waved, blackish, obsolete; a row of large black dots on hind-margin; cilia dark fuscous-grey, tips and a parting-line grey-whitish. Hind-wings sub-hyaline, whitish; hind-marginal line slender, black: cilia whitish, with dark grey parting-line.

Not near to any other species; the well-characterised first line readily distinguishes it from the rest of the genus.

One female taken at light at Parramatta, by Mr. G. H. Raynor, in September.

Pemp. strigiferella, Vol. III., p. 202.

In my description hardly sufficient latitude is allowed for the extreme variation of this changeable species. The males vary greatly in intensity of marking; sometimes all markings, even the characteristic subapical streak, are almost obsolete, and the entire insect is nearly uniform pale greyish-ochreous. The female, when in fine condition, which is rarely the case, usually shows the first and second lines clearly marked, much more so than in male, and is sometimes much suffused with smoky fuscous.

The species appears to be especially (perhaps wholly) a coast insect, occurring abundantly along the sea-line from Newcastle to Kiama, throughout the summer months.

Pemp. caliginosella, n. sp.

9 $\frac{3}{4}$ ". ♂ ♀. Head light ochreous-brown. Labial palpi rather longer than head, obliquely ascending, light ochreous-brown, in male ochreous-whitish beneath. Antennæ greyish-ochreous, in male thickened, dentate, very finely ciliated, with a flattened tuft of black scales, whitish on sides, in sinuation; in female simple, filiform. Thorax brownish-ochreous, irregularly suffused with blackish scales. Abdomen pale ochreous, segments basally suffused with grey, in male with pale ochreous anal tuft, in female with pointed elongate-conical ovipositor. Legs pale ochreous brown, slightly irrorated with blackish. Fore-wings moderately elongate, sub-triangular, narrow at base, regularly dilated, hind-margin obliquely rounded; pale greyish-ochreous-brown, almost entirely suffused with blackish fuscous except on a narrow segmental patch on costa between two-fifths and four-fifths, and a broader area above anal angle, extending more or less along inner and hind-margins; all markings obscured, except faint traces of a dark fuscous cloudy second line; a hind-marginal row of black dots: cilia pale brownish-ochreous, with two suffused grey-fuscous parting-lines. Hind-wings pale fuscous-grey, darker posteriorly, hindmarginal line

dark fuscous; cilia whitish-grey, with dark fuscous-grey parting-line.

Very closely allied to *strigiferella*, but smaller, costa somewhat straighter, and distinguished by the peculiar suffusion and pale patches of the fore-wings; the sexes are precisely similar, whilst in *strigiferella* they differ markedly.

One pair, taken early in February near Sydney.

The group of five closely allied species, to which this belongs, conspicuous only by their dull colouring, do not come very close to any European species of the genus; they are perhaps nearest to *P. fusca*, *Hw.*

Pemp. oculiferella, n. sp.

♂. 11"-12½". Head, palpi, and thorax, pale dull ochreous, with a few scattered blackish scales, centre of thorax blackish; labial palpi longer than head, nearly straight, obliquely ascending; maxillary palpi ochreous-brown, tuft-like, nearly as long as labial palpi. Antennæ blackish, subdentate, finely ciliated, with a long flattened tuft of black hair scales in basal situation. Abdomen pale dull ochreous, thinly irrorated with blackish. Legs pale ochreous, very densely irrorated with blackish. Fore-wings elongate, moderately broad, gradually dilated, costa straight until a little before apex, hind-margin rather oblique, slightly rounded; pale ochreous, along disc tinged with reddish-brown, along costa and inner-margin rather broadly suffused with dark fuscous, and irrorated with blackish and a few whitish scales; the inner-marginal shade is blackish at $\frac{1}{3}$, where it includes a small round pale ochreous spot, open above, containing a central black-dot; a short broad oblique blackish-fuscous apical streak; two small black discal dots at $\frac{2}{3}$, one directly above the other; veins posteriorly faintly shaded with blackish; a hind-marginal row of strong black spots: cilia fuscous-grey, with rows of whitish points. Hind-wings fuscous-grey, paler towards base, hind-marginal line dark-fuscous; cilia whitish-grey, with dark grey parting-line.

♀ . 9"-10½". Smaller and darker than male ; fore-wings much or almost wholly suffused with dark grey-fuscous, through which the markings are only faintly visible, excepting a distinct circular ochreous spot at $\frac{1}{3}$ of inner margin, enclosing a white dot ; sometimes the ochreous colour is extended along or near inner-margin. Hind-wings slightly darker than in male.

Allied to *strigiferella* and its associates ; it is variable in intensity of colouring, but generally well characterised by the inner-marginal small ocellus, which is black-centered in male, white-centered in female ; the male is also distinguished by the partial reddish-ochreous tinge of disc, and the female is the darkest in the group, and also exceptional in being smaller than male.

Not uncommon at light at Parramatta ; it appears to be double-brooded, occurring from November to January, and again in March.

Pemp. digrammella, n. sp.

9". ♂ ♀ . Head ochreous-brown. Labial palpi considerably longer than head, nearly perpendicularly erect, pale ochreous, on sides dark fuscous. Antennæ dark fuscous, in male thickened, finely ciliated, with a triangular tuft of blackish scales in situation, in female simple. Thorax brownish-ochreous, on back greyish. Abdomen in male ochreous, in female whitish-ochreous-grey, base of segments suffused with dark grey. Legs in male ochreous, in female ochreous-whitish, more or less densely irrorated with dark fuscous. Fore-wings elongate, rather narrow, costa gently arched, hind-margin obliquely rounded ; pale whitish-ochreous, suffused (especially in male) with brighter brownish-ochreous, coarsely irrorated along costa and posteriorly on veins with blackish scales ; first line whitish, oblique, slightly curved, from before $\frac{1}{3}$ of costa to two-fifths of inner margin, internally rather broadly edged with fuscous, externally with a black marginal dot above middle and another on fold ; second line whitish or ochreous-whitish, strongest on

costa, proceeding from five-sixths of costa obliquely inwards, sharply angulated outwards above middle, then inwards and running straight to anal angle, obscurely edged on both margins with dark fuscous, its outer margin edged on costa with an oblique short blackish-fuscous wedge-shaped streak reaching apex; a large black dot in middle of wing before $\frac{2}{3}$, placed in a slender longitudinal whitish line; an obsolete row of blackish hind-marginal spots: cilia pale grey, with three clear darker parting-lines. Hind-wings rather pale fuscous-grey, darker posteriorly, hind-marginal line dark fuscous; cilia whitish-grey, with darker grey parting-line.

Closely allied to *strigiferella*, *rufitinctella*, and *oculiferella*, but differing from all (except the much larger female of *strigiferella*) by its clearly expressed first and second lines, as well as by its small size, and single (not double) discal black dot. The sexes are quite similar in size and appearance.

One pair taken at light at Parramatta by Mr. G. H. Raynor, in December.

Pemp. apotomella, n. sp.

8"-10½". ♂ ♀. Head whitish-ochreous, almost entirely suffused with brownish-ochreous. Labial palpi rather longer than head, obliquely ascending, whitish-ochreous mixed with brownish. Antennæ whitish-ochreous, in male finely ciliated, with a flattened tuft of black scales in basal situation, in female slender, simple. Thorax brownish-ochreous posteriorly, shading into dark purple-fuscous anteriorly, sometimes tinged with dull crimson. Abdomen golden-ochreous, paler on sides. Legs rather pale ochreous, anterior pair partially suffused with fuscous. Fore-wings moderately elongate, gradually dilated, costa gently arched, hind-margin oblique, slightly rounded; pale dull greyish-crimson, suffused between veins with grey scales; a broad ochreous-whitish costal streak from base to apex, slightly attenuated at each extremity, margined beneath by a broader dark grey-fuscous

streak from base to apex, the lower margin of which is suffused into ground-colour; cilia pale dull greyish-crimson. Hind-wings pale fuscous-grey, subhyaline towards base, darker at apex, hind-marginal line fuscous; cilia whitish-grey.

Apparently allied to the European *P. semirubella*, Sc., but much smaller, with narrower and more pointed forewings, more suffused with dark grey, and with broader costal streak.

Three specimens (one male, two females) sent from Duaringa, Queensland, by Mr. G. Barnard.

SPERMATOPHTHORA, *Ld.*

Forehead with an obtuse cone of scales. Ocelli present. Antennæ slightly sinuate above base in both sexes. Labial palpi rather short, ascending, compressed, terminal joint horizontal. Maxillary palpi filiform, appressed, in male rather long, in female quite short. Fore-wings with 11 veins, 4 and 5 stalked. Hind-wings with 7 veins.

This genus contains only one European species; the species described below is doubtfully associated with it, though certainly akin; it has the facies and general character of a *Pempelia*, but is without the characteristic antennal tuft of male. The Australian species possesses instead three minute acute teeth on the inner side of antennæ a little above base; the basal joint is also thickened.

Sperm. mesactella, n. sp.

7½". ♂. Head pale ochreous, frontal cone blackish. Palpi slightly longer than head, straight, obliquely ascending, second joint pale ochreous, becoming blackish at apex, terminal joint entirely black. Antennæ pale ochreous, basal joint swollen, laterally compressed, sinuate above base, fourth to sixth joints each with a small black acute slender tooth. Thorax pale ochreous-grey, anterior margin tinged with dull carmine. Abdomen pale ochreous, bases of segments irrorated with pale grey. Legs ochreous-whitish, slightly irrorated with fuscous,

all tarsi and apex of posterior tibiæ entirely dark fuscous. Fore-wings moderately elongate, gradually dilated nearly to apex, hind-margin slightly oblique, rounded beneath; pale whitish-ochreous, suffused with darker ochreous, and thinly sprinkled with blackish-scales; a very broad whitish subcostal band, thinly sprinkled with black scales, from base to costa just before apex, completely covering costa except a very narrow strip from $\frac{1}{2}$ to $\frac{3}{4}$; this subcostal band is margined beneath from $\frac{1}{2}$ to apex by a rather broad cloudy fuscous-grey streak, mixed with blackish; second line barely indicated by an obsolete prolongation of this cloud towards anal angle; a row of dark fuscous scales along hind-margin: cilia fuscous-grey, paler towards tips, with indistinct rows of whitish points. Hind-wings unicolorous pale grey, hind-marginal line clear dark fuscous; cilia pale grey, towards anal angle whitish, with strong dark fuscous parting-line.

This species bears considerable superficial resemblance to the South European *Pemp. sororiella*, Z., but, besides the structural differences, is without the distinct first and second lines of that insect.

One male taken at light, Parramatta, in October.

EUCARPHIA, *Hb.*

Euc. neotomella, *n. sp.*

12". ♂. Head white. Labial palpi thrice as long as head, densely haired, terminal joint attenuated, white, mixed on sides with fuscous-grey. Antennæ whitish, thickened, dentate, rather strongly ciliated. Thorax whitish, almost wholly suffused with light grey. Abdomen white, basal segments ochreous. Legs white, beneath tinged with grey. Fore-wings rather short, moderately broad, costa slightly arched, apex rounded, hind-margin oblique; fuscous-grey, densely mixed with whitish scales, so as to appear much paler, darkest towards costa, especially on basal half; a tolerably broad straight clear white subcostal streak

from base nearly to costa just before apex, attenuated and obsolete at extremity; cilia white, with several rows of indistinct pale grey points. Hind-wings white, very faintly tinged with fuscous towards apex, hind-marginal line fuscous-grey; cilia white, with faint grey parting-line.

Not to be confused with any other *Eucarphia*; it somewhat resembles superficially *Etiella sincerella*, but, in addition to the generic differences, may be known by its white head and subcostal (not costal) white streak.

One male at light, Parramatta, in October.

Euc. vulgatella, Vol. III., p. 207.

In addition to the localities given, this species occurs generally in the Illawarra and Shoalhaven districts, and was taken by Mr. Raynor commonly throughout Tasmania.

Euc. cnephaella, n. sp.

12"-12½". ♀. Head greyish-ochreous, collar irrorated with black scales. Labial palpi more than twice as long as head, porrected, slightly bent downwards, laterally compressed, greyish ochreous, on sides and apex suffused with fuscous. Antennæ fuscous-grey. Thorax greyish-ochreous, more or less densely irrorated with blackish scales. Abdomen whitish-ochreous irrorated with dark fuscous-grey. Legs pale ochreous, suffusedly irrorated with dark fuscous. Fore-wings rather short, moderately broad, posteriorly gradually dilated, hind-margin moderately oblique, slightly rounded; whitish-ochreous, discally suffused with clearer ochreous, rather closely and irregularly irrorated with blackish-grey scales, sometimes so densely as to overcloud the ground-colour; these dark scales generally disappear along the fold, leaving an obsolete paler line; an irregular strong blackish spot in middle of base; first line cloudy, blackish, rather broad, from $\frac{1}{3}$ of costa obliquely outwards to disc, there rectangularly bent in and proceeding obliquely inwards to two-

fifths of inner margin; second line cloudy, blackish, indistinct, strongly waved throughout, tending to separate into elongate points, broadly sinuate inwards beneath costa; a cloudy blackish oblique apical blotch or streak, obscuring origin of second line; a single large elongate black dot on disc at $\frac{2}{3}$, midway between costa and inner margin; in suffused specimens the markings are partially obscured; a hind-marginal row of about eight small cloudy black dots: cilia fuscous-grey, with several rows of whitish points. Hind-wings pale fuscous-grey, rather darker towards apex; hind-marginal line clear, dark fuscous; cilia greyish-whitish, with strong clear dark fuscous parting-line.

Closely allied to *Enc. vulgatella*, but easily recognised by the broader fore-wings, with more arched costa, and the strongly marked transverse lines, which in *vulgatella* are hardly indicated. Also very similar to *Pemp. strigiferella* female, from which it may be known, even when alive, by the very different long porrected palpi.

Three females taken at light, at Parramatta, in October and March; it is therefore probably double-brooded.

MYELOIS, Z.

Myel. oenobarella, n. sp.

7"-8 $\frac{1}{2}$ ". ♂ ♀. Head brownish-ochreous. Palpi slender, recurved, reaching forehead, pale ochreous, mixed with blackish scales on sides, apex entirely blackish. Antennæ ochreous-whitish, annulated with black, in male thickened, finely ciliated, in female filiform. Thorax brownish-ochreous, suffused with dull carmine, with spots of blackish scales in centre and on shoulders, and with a few blackish scales posteriorly. Abdomen pale ochreous, segments suffused with dark grey-fuscous except on apical rings; in male with bright ochreous anal tuft. Legs pale ochreous, irrorated with carmine and dark fuscous scales, tarsi dark fuscous with pale ochreous rings at apex of joints, middle and posterior tibiæ with oblique black central bands,

Fore-wings elongate, narrow, slightly dilated, hind-margin slightly oblique, rounded beneath; brownish-ochreous, irregularly and densely mixed with blackish, and with a few whitish-ochreous or whitish scales, and suffused in irregular patches, except along costa, with ochreous-orange or dull carmine; a short black basal streak on inner-margin; first line broad, whitish, cloudy, from $\frac{1}{3}$ of costa obliquely outwards, angulated inwards on disc, then outwards on fold, thence to inner margin at two-fifths, bordered externally throughout by a broad cloudy blackish fascia; second line narrow, whitish, waved, from five-sixths of costa to anal angle, sending a strong blunt angulation inwards below costa, and a short acute one just above anal angle, margined throughout on both sides with blackish, most strongly internally; two round black dots on disc at $\frac{2}{3}$, above middle, the upper one nearer base; hind-marginal line black, interrupted on veins; cilia ochreous at base, becoming pale grey. Hindwings pale grey, slightly darker posteriorly; hind-marginal line clear, dark fuscous; cilia whitish-grey, tinged with ochreous, with indistinct darker grey parting-line.

This is at present the only Australian representative of the genus, the other species originally referred to *Myelois* being more correctly placed elsewhere; it is narrower-winged than the typical European forms.

One pair taken at Sydney and Parramatta in October, the male at light, the female at rest on a fence.

EUZOPHERA, Z.

Forehead smooth. Ocelli present. Antennæ not sinuate, simple. Labial palpi rather short, ascending filiform, terminal joint shorter than second, rather pointed. Maxillary palpi very short. Fore-wings usually narrow, posteriorly dilated, costa more or less curved. Hind-wings rather narrow, flatly rounded. Fore-wings with 11 veins; 4 and 5 stalked or rarely separate.

Hind-wings with 7 veins; 2 before (rarely from) posterior angle of cell.

This genus, which contains about a dozen European species, is nearly allied to *Myelois*, from which it is distinguished by the hind-wings having only 7 veins.

Euz. leucarma, n. sp.

7". ♂. Head dark grey, mixed with whitish. Palpi nearly straight, obliquely ascending, reaching a little above head, blackish mixed with purplish-white, second joint with a terminal white ring. Antennæ somewhat compressed above basal joint, thickened, finely ciliated, whitish-ochreous. Thorax dark grey. Abdomen blackish-grey, sides, apex, and apical ring of each segment pale dull ochreous. Anterior and middle legs dark purple-fuscous, tarsi with whitish-ochreous rings at apex of joints, middle tibiæ whitish on apical half except an oblique blackish band at $\frac{3}{4}$; posterior legs whitish, beneath dark fuscous. Fore-wings rather short, broad, subtriangular, costa slightly arched, hind-margin hardly oblique, anal angle rounded; dark purple-grey, becoming broadly blackish towards costa, elsewhere with apex of each scales whitish-grey; first line represented by a rather broad oblique white fascia from before $\frac{1}{4}$ of costa to $\frac{1}{3}$ of inner-margin, broadly margined on each side with black, but partially suffused and indistinct externally towards inner margin; a large indistinct whitish blotch, irrorated with dark fuscous, on costa between $\frac{1}{2}$ and five-sixths, in the lower part of which is a crescentic black discal spot; second line hardly lighter than ground-colour, obsolete: cilia dusky-grey, with ochreous-whitish points. Hind-wings pale grey-fuscous, darker towards apex; cilia pale grey, with cloudy darker parting-line.

The broadest winged species of the genus; nearly allied to *subarcuella*, but readily known by the white transverse fascia.

One male at light, Parramatta, in March.

Euz. subarcuella, Vol. III., p. 211.

This species and the succeeding one are shown by the neuriation, which I had not previously been able to examine, to differ from *Myelois* in the possession of only 7 veins in the hind-wings, and must therefore be referred to this genus.

Euz. cosmiella, Vol. III., p. 212.

One male sent from Duaringa, Queensland, by Mr. G. Barnard.

Euz. microdoxa, n. sp.

7"-7½". ♂ ♀. Head, palpi, and thorax whitish-grey, mixed with darker grey-fuscous; palpi arched, ascending, shorter than head. Antennæ fuscous-grey. Abdomen ochreous-grey, anal tuft whitish-ochreous. Legs whitish, very finely and densely irrorated with blackish; anterior and middle tarsi blackish with white rings at apex of joints; posterior tibiæ and tarsi white above. Fore-wings short, moderately narrow at base, rather strongly dilated, hind-margin oblique, slightly rounded; in the male specimen white, irregularly irrorated with close blackish scales, so as to appear dark grey, except on a round suffused spot before first line above middle, and an irregular inwardly oblique costal spot before apex; in the female specimen dull light-grey, irrorated with fuscous, with a large dark fuscous blotch resting on costa between first line and discal spots; in both the lower half of wing somewhat suffused with pale grey-brown; first line slender, clear, black, nearly straight, irregularly dentate, from two-fifths of costa to middle of inner margin, internally margined with whitish; second line slender, black, swollen towards inner margin, from four-fifths of costa to just before anal angle, faintly dentate, slightly angulated inwards just above middle, margined externally with whitish, and beyond this by a broader dark fuscous-grey shade; two strong black discal dots at $\frac{2}{3}$, one directly above the other, almost confluent into a streak; a hind-marginal row of blackish irregular spots; cilia fuscous-grey, with rows of

whitish points. Hind-wings dark ochreous-fuscous-grey; cilia grey-whitish, tinged basally with ochreous, with faint darker parting-line.

A dull-looking species, having somewhat the facies of *Ephestia*, recognisable by the distance of the first line from base of wing.

One pair, certainly belonging to the same species, though the ground-colour is differently disposed; the male taken by Mr. G. H. Raynor at Launceston, Tasmania, early in January; the female sent from Duaringa, Queensland, by Mr. G. Barnard.

EPISCHNIA, *Hb.*

Forehead with a cone of scales. Ocelli present. Antennæ in male sinuate above basal joint, finely ciliated, in female simple. Labial palpi long, somewhat ascending, compressed; maxillary palpi short. Breast in male with a long tuft of hairs. Fore-wings narrow, hardly dilated; hind-wings narrow, very flatly rounded. Fore-wings with 11 veins; 4 and 5 not stalked. Hind-wings with 8 veins; 3 and 4 stalked.

To this genus the following species is doubtfully referable; further specimens will be required to complete the investigation. It has the general facies of an *Anerastia*, but differs in venation.

Episch. neurophorella, n. sp.

6½". ♀. Head pale ochreous. Palpi twice as long as head, porrected, whitish-ochreous, beneath mixed with blackish. Antennæ whitish-ochreous. Thorax whitish-ochreous, with a longitudinal slender blackish line on each side of back, and a longitudinal blackish streak on shoulder. Abdomen and legs whitish-ochreous. Fore-wings elongate, rather narrow, hardly at all dilated, costa arched before apex, hind-margin very obliquely rounded; pale whitish-ochreous, all the veins clearly marked with coarse blackish scales; before $\frac{2}{3}$ of disc is a rather broad transverse cloudy blotch of coarse dark fuscous scales, reaching nearly to costa and inner margin; two small black costal spots at one-sixth

and before middle; a faint transverse slender fuscous cloud a little before apex; hind-marginal line dark fuscous: cilia whitish-ochreous, tips and a cloudy parting-line fuscous. Hind-wings whitish, extreme apex infuscated; cilia whitish, smoky at apex.

One female taken at Sydney on a fence in December.

ANERASTIA, Hb.

Aner. mirabilella, Vol. III., p. 213.

Since publishing my description, I have obtained two females at light at Parramatta in October. This sex differs from the male in having the white dorsal blotch of the fore-wings much suffused with black, and the hind-wings blackish-grey, with ochreous cilia, without any continuation of the dorsal blotch of fore-wings over their surface; in all other respects the sexes are similar in colouring.

Aner. virginella, n. sp.

8"-11½". ♂ ♀. Head carmine-pink, thinly mixed with whitish-ochreous. Palpi more than two and a half times as long as head, horizontally porrected, carmine-pink, mixed with whitish above and internally. Antennæ ochreous-whitish, basal joint suffused with carmine anteriorly, in male rather strongly sinuate above base. Thorax carmine-pink, mixed with whitish posteriorly. Abdomen elongate, whitish-ochreous. Legs whitish-ochreous. Fore-wings elongate, moderately narrow, costa slightly arched, apex rounded, hind-margin very oblique; carmine-pink, towards costa and inner-margin tinged with ochreous; the veins more or less distinctly white, the median vein most conspicuous; cilia carmine-pink. Hind-wings whitish, hind-marginal line pale fuscous-grey; cilia whitish, with cloudy grey parting-line.

Appears to be nearly allied to the Indian *A. sceletella*, Z., which however has suberect palpi. Three specimens (one male, two females) sent from Duarina, Queensland, by Mr. G. Barnard.

Aner. psamathella, n. sp.

9½". ♂. Head whitish-ochreous. Palpi thrice as long as head, roughly-scaled, horizontally porrected, whitish-ochreous, mixed on sides with dark fuscous. Antennæ whitish-ochreous, thickened, subdentate, finely ciliated, rather strongly sinuate above basal joint. Thorax whitish-ochreous, irrorated with darker. Abdomen whitish-ochreous. Legs greyish-ochreous, tarsi mixed with dark fuscous. Fore-wings elongate, moderately narrow, costa markedly arched, apex rounded, hind-margin very oblique; greyish-ochreous, becoming much paler along inner-margin; all veins broadly indicated with ochreous-whitish; a few large black scales tending to form a transverse row a little before hind-margin, and two or three other scattered black scales towards inner-margin and base; a row of nearly obsolete cloudy fuscous dots on hind-margin: cilia ochreous-whitish, tips mixed with dark fuscous. Hind-wings fuscous-grey, slightly paler near base; cilia whitish, with faint grey parting-line.

One male taken at Sydney in December.

EPHESTIA, Gn.

Eph. ficulella, Barrett.

This species, closely allied to *E. elutella*, and until recently confused with it, is larger and darker than *elutella*, with the fore-wings narrower at base and the costa posteriorly more rounded, and the hind-wings possess only one tuft of yellow scales on the upper surface in male, whilst *elutella* has two. I have taken it in great profusion in a chemist's shop in Sydney in September, but could not discover on what the larva had fed; it usually lives on figs and other dried fruits. The specimens are mostly larger and finer than my English ones, and show distinctly the reddish-ochreous longitudinal dashes towards the fold, but do not specifically differ.

Eph. sericaria, Scott., Proc. Zool. Soc., Lond., 1859, 207, pl. lxi.,
(*Hyphantidium*).

I have not seen specimens of this species, but the characters given by Mr. Scott indicate a true *Ephestia*; and the larval habit of spinning continuous silken sheets of web of great extent, although sufficient to prove that the species is distinct from those known in Europe, cannot be regarded as in itself of generic importance. The description of the imago is, unfortunately, valueless for specific distinctions, as it would apply equally well to every species of the genus; according to the figure, the insect approaches *ficulella* in shape, but differs in the somewhat angulated first line, and the presence of two other transverse dark lines between the first line and base; it would be unsafe to draw further distinctions from the figure alone.

The larvæ from which Mr. Scott's specimens were bred fed on maize, and covered the whole walls of the room with a closely-woven sheet of white web, covering in this particular instance about 250 square feet: the imagos appeared in October. The locality was in the district of Wollombi, New South Wales.

GALLERIDÆ.

APHOMIA, *Hb.*

Fore-head in male with a broad projecting cone of scales. Antennæ filiform, basal joint sometimes with a small tooth of scales. Labial palpi in male short, ascending, terminal joint pointed, excavated behind, notched; in female as long as thorax, slender, filiform, with appressed scales, porrected. Maxillary palpi very short. Fore-wings varying in breadth, sometimes very narrow, hind-margin obliquely rounded; hind-wings flatly rounded. Fore-wings with 12 veins; discoidal cell of male in some species very broad and long, in others normal, in female always moderate; 8 and 9 rising near together from 7; 4 and 5 stalked or separate. Hind-wings with 7 veins, 5 being absent.

I have followed Zeller in reuniting to *Aphomia* his genus *Melissoblaptēs*, originally separated from the typical *Aphomia* by the shorter discoidal cell of male, and not toothed basal joint of antennæ. The discovery of intermediate exotic species has rendered this distinction untenable, although the extreme forms are very diverse in appearance. *A. latro*, Z., described below, was referred by him to *Melissoblaptēs*; the other species are truly *Aphomia*.

The genus contains few species, but occurs also throughout Europe, North America, and in Japan.

Aph. tripartitella, n. sp.

10½"-12½". ♀. Head grey-whitish mixed with grey. Labial palpi twice as long as head, horizontal, grey-whitish tinged with ochreous. Antennæ grey-whitish, slenderly annulated with black. Thorax grey-whitish, more or less entirely suffused with dark grey. Abdomen whitish-ochreous. Legs whitish, beneath scantily irrorated with blackish; anterior and middle tibiæ with a slender blackish band before apex, joints of tarsi blackish at base. Fore-wings broad, somewhat dilated, costa arched, hind-margin rounded, oblique; whitish-grey, tinged with greenish and suffused with mixed brown, grey, and dark-grey scales variable in intensity; first line whitish, externally edged with dark grey or blackish, from two-fifths of costa to two-fifths of inner-margin, dentate, angulated outwards beneath costa, and broadly arched outwards above fold; second line whitish, internally edged with blackish, from $\frac{2}{3}$ of costa to four-fifths of inner margin, dentate or lunate, between $\frac{1}{4}$ and $\frac{3}{4}$ of its length strongly arched outwards; costa between first and second lines irregularly blackish; on disc midway between first and second lines are two black dots, generally strong, longitudinally placed, and a third less distinct immediately above them between the two; cilia whitish-ochreous-grey, with cloudy grey parting-lines, and chequered with two rows of subquadrate blackish spots. Hind-

wings whitish-ochreous-grey, towards apex suffused with dark fuscous; cilia grey-whitish, with a broad cloudy fuscous parting-line.

Three females taken on fences near Sydney in December and January.

Aph. pachytera, n. sp.

11"-12". ♂. Head whitish-grey irrorated with blackish, with short dense overhanging frontal tuft. Labial palpi short, appressed, almost concealed in frontal scales, whitish-grey mixed with darker. Antennæ filiform, whitish-grey, slenderly annulated with black. Thorax whitish-grey, coarsely irrorated with darker, forming confused blackish spots on shoulders and posteriorly. Abdomen greyish-ochreous, segments basally suffused with darker. Legs whitish, very finely and densely irrorated with blackish, except on posterior pair above; middle and anterior tibiæ with an oblique blackish band before apex, tarsi nearly black with slender white rings at apex of joints. Fore-wings elongate, moderately broad, discoidal cell not abnormally large, costa regularly arched, apex rounded, hind-margin flatly rounded off beneath; whitish-grey, densely but irregularly irrorated with dark grey and blackish scales; first line strong, cloudy, blackish, from $\frac{1}{3}$ of costa to two-fifths of inner-margin, uniformly convex outwardly, nearly preceded by an almost obsolete slender blackish parallel line; second line double, cloudy, blackish, enclosing a whitish central space, inner line broadest and darkest, from before four-fifths of costa to before anal angle, central half dentate and strongly bowed outwards; a cloudy dark grey costal blotch before apex; two black dots longitudinally placed on disc, one before, one beyond middle, nearer to costa than to inner-margin; hind-marginal line black, interrupted: cilia dark grey, tips and an obsolete line near base whitish. Hind-wings grey-fuscous, tinged with ochreous; hind-marginal line blackish: cilia fuscous-grey, with sharp blackish-fuscous parting-line.

Having only the male of this species, I cannot positively assert that it is not the other sex of the preceding, to which it bears considerable general resemblance. Many of the differences might be merely sexual, but the differently shaped, not angulated, first line is probably a reliable specific distinction.

Two males taken by Mr. G. H. Raynor near Hobart Town, Tasmania, in January.

Aph. latro, Z., z. b. V. 1873, 213.

16"-16½". ♂ ♀. Head, palpi, and thorax pale greyish-ochreous; palpi sprinkled on sides with fuscous, in male short, almost concealed in frontal cone, in female long, attenuated, porrected. Antennæ pale greyish-ochreous, slenderly annulated with dark fuscous, basal joint in male with a very short tooth of scales. Abdomen elongate, pale greyish-ochreous, in female with long projecting ovipositor. Legs pale greyish-ochreous, anterior and middle pair strongly irrorated with dark fuscous, all tarsi fuscous-black, with pale rings at apex of joints. Fore-wings very elongate, narrow, parallel-sided, posteriorly narrowed, costa gently arched, apex rounded, hind-margin very oblique; greyish-ochreous, greyer between veins, irregularly sprinkled with black scales; in male a pale whitish-ochreous straight slender central streak from base to apex, becoming obsolete at extremity, margined beneath by a cloudy blackish-fuscous streak, darkest from base to $\frac{2}{3}$, thence indistinct; in female the pale streak is imperceptible, but the dark streak is clearly marked; in male some of the veins are almost whitish-ochreous; a hind-marginal row of numerous small black dots: cilia pale greyish-ochreous, tinged with rufous, with indistinct parting-line near base. Hind-wings much broader than fore-wings, yet elongate, flatly rounded, broadly indented below apex; whitish, almost transparent, in male narrowly, in female more broadly suffused with smoky-grey towards apex; hind-marginal line dark grey: cilia white, with faint greyish parting-line.

The largest species of the group, and not to be confused with any other known ; the very elongate fore-wings have a peculiarly glossy appearance.

Larva sixteen-legged, very stout, tapering at both ends, head much narrower than body, whole surface with a few scattered hairs ; darker or lighter dull drab-brown, spots, small, black ; head and second segment black ; anal segment with a small black plate. Feeds in the tall spike-like flower-heads of *Xanthorrhœa hastilis* (the so-called 'grass-tree'), burrowing amongst the seeds and forming tough galleries with silk and refuse, in October. Pupa in a firm cocoon amongst refuse. These larvæ were very restless in captivity, and could hardly be restrained ; they occurred gregariously in the heads, one spike containing apparently nearly 100 larvæ of different sizes, who eventually consumed the entire head. My specimens were bred in November ; I have never taken the imago at large ; it is probably very retired in habit. The larval habits of this species are abnormal in the genus and family ; all previously known larvæ are parasitic in habit, feeding in the nest of bees on the wax ; this species is therefore of peculiar interest.

My larvæ were found near Sydney ; Zeller's original specimen was from Adelaide.

The venation of this species differs from that of the others investigated in having veins 8 and 9 of fore-wing rising on a short stalk, instead of separately, from 7.

For the benefit of students, I add a classified list of all the species of *Crambites* mentioned in this and my preceding paper.

CHILONIDÆ.

SCHOENOBIVS, *Dup.*

imparellus, *n. sp.*

CHILO, *Zk.*

parramattellus, *n. sp.*

leptogrammellus, n. sp.

schistellus, n. sp. (?huj. gen.)

CRAMBIDÆ.

ANCYLOLOMIA, *Hb.*

Westwoodi, Z., Cr. II.

(*Prionophora ruptella*, Wkr. ad hanc fam. non pertinet.)

CRAMBUS, *F.*

apicistrigellus, n. sp.

concinellus, Wkr., Cat. 165.

lativittalis, Wkr., Cat. 171; *halterellus*, Z., Cr. 33.

torrentellus, n. sp.

trivittatus, Z., Cr. 34; *bivittellus*, Wkr., Cat. 171. (nec Don.)

bivittellus, Don., Z., Cr. 34; *recurvellus*, Wk. Cat. 171.

aurantiacus, n. sp.

bifractellus, Wkr. Cat. 174.

impletellus, Wkr., Cat. 175.

pleniferellus, Wkr. Cat. 173; *aurosus*, Feld., Nov. T. 137, fig. 31; Z. Hor. Soc. Ross. 1877, 45.

longipalpellus, n. sp.

cuneiferellus, Wkr. Cat. 175.

dimidiellus, n. sp.

hoplitellus, n. sp.

relatalis, Wkr., Cat. 172.

grammellus, Z., Cr. 46.

perlatalis, Wkr., Cat. 174.

opulentellus, Z., Cr. 46.

invalidellus, n. sp.

enneagrammos, n. sp.

argyroneurus, Z., Cr., 47.

milvellus, n. sp.

ARGYRIA, *Hb.*

argyraspis, n. sp.

DIPTYCHOPHORA, *Z.*

pæmaturella, n. sp. (*dilatella* h. syn.).

PHYCIDÆ.

NEPHOPTERYX, Z.

- stenopterella*, n. sp.
fornacella, n. sp.
euraphella, n. sp.
infusella, n. sp.
opimella, n. sp.

PEMPELIA, Hb.

- melanostyla*, n. sp.
strigiferella, n. sp.
caliginosella, n. sp.
oculiferella, n. sp.
digrammella, n. sp.
rufitinctella, n. sp.
apotomella, n. sp.

ETIELLA, Z.

- sincerella*, n. sp.
Behrii, Z., Is. 1848, 883.
chrysoporella, n. sp.

SPERMATOPHTHORA, Ld.

- mesactella*, n. sp. (? huj. gen.)

EUCARPHIA, Hb.

- neotomella*, n. sp.
ensiferella, n. sp.
vulgatella, n. sp.
cnephæella, n. sp.

LASIOCERA, n. g.

- canilinea*, n. sp.

CEROPREPES, Z.

- almella*, n. sp.

MYELOIS, Z.

- œnobarella*, n. sp.



EUZOPHERA, Z.

- leucarna*, n. sp.
subarcuella, n. sp.
cosmiella, n. sp.
microdoxa, n. sp.

EPISCHINIA, Hb.

- neurophorella*, n. sp.

ANERASTIA, Hb.

- mirabilella*, n. sp.
virginella, n. sp.
psamathella, n. sp.

HOMÆOSOMA, Curt.

- vagella*, Z., Is. 1848, 863.
distichella, n. sp.

EPIHESTIA, Gn.

- elutella*, Hb.
ficulella, Barr.,
sericaria, Scott, Proc. Zool. Soc., Lond. 1859, 207, Pl. 61.
interpunctella, Hb.

GALLERIDÆ.

GALLERIA, F.

- mellonella*, L.

APHOMIA, Hb.

- tripartitella*, n. sp.
pachytera, n. sp.
latro, Z., z. b. V. 1873, 213.

ACHROEA, Hb.

- grisella*, F.
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